



MASTERWALL.

X-SERIES

**Step By Step guide for installing
the X-Series System.**

TECHNICAL DOCUMENT:

STEP BY STEP INSTALLATION GUIDE DIRECT-TO-FRAME SYSTEM

MASTERWALL AUSTRALIA PTY LTD. 18-20 Cyber Loop, Dandenong South, Victoria, Australia
EMAIL. sales@masterwall.com.au WEB. masterwall.com.au NATIONAL ENQUIRIES. (03) 9799 6565 FAX. (03) 8740 2180

CONTENTS

Builders Paper	1-2
Flashing Tape	1-2
Fixed Backblocking	1-2
Ground Level	3-4
Cutting & Layout	3-4
Fixings	5-6
Sealing Joints	5-6
Sealing Openings	5-6
Sealing Butt Joints	5-6
Control Joints	5-6
External Angles	7-8
Jointing	7-8
Finishing	7-8

NOTE:

This Step by Step Manual is designed to provide a general overview of how to correctly install the Masterwall System. For more specifications and construction details please refer to the Masterwall System Specifications and Construction Details Manual available at:

www.masterwall.com.au

Description

The Masterwall Panel is an external, polystyrene, lightweight, reinforced, insulated wall panel, mechanically fixed to the outer face of the building. The panels are completed by the application of an approved acrylic render, trims, sealants, opening flashings and decorative and waterproof coatings.

The base material is a Medium (M) Grade expanded polystyrene (EPS) in sheet form with an applied facing of cementitious material. This facing is reinforced with a fibreglass mesh. The facing is compatible with approved acrylic render and decorative finishes.

The components of the System

- X-Series 50/75/100/125/150mm Polystyrene Panel
- Fixing Sets
- Masterwall Breather Wrap
- Masterwall Approved Sealants
- Masterwall Flashing Tape
- Mesh Tape
- External Angles
- Finishing - RENDER SYSTEM

Frame preparation

- All frames should comply with BCA Codes (AS 1684 timber & AS 3623 steel).
- All structural bracing should be installed & frames straightened.
- All aluminium and PVC doors and windows should be installed ensuring the reveals finish flush with the outside face of the frame.
- Timber joinery should protrude past the frame by 25mm minimum.
- All weatherproofing flashings at rooflines, balconies, cladding junctions and over lower brick work should be completed prior to installation.
- All wall penetrations should be in place, such as plumbing, ducting, rain-heads and electrical cable etc. (note: electrical cable should be in conduit).
- Eaves may be installed either prior to or post Masterwall installation.

About this Installation Guide

This booklet should be seen as a **guide only** to the installation of the Masterwall System. Additional specifications and construction details are available on the website: **www.masterwall.com.au**

For further technical advice contact:
Masterwall Australia
18-20 Cyber Loop
Dandenong South VIC 3175

03 9799 6565
sales@masterwall.com.au
www.masterwall.com.au

TECHNICAL SUPPORT

Masterwall Australia also offers technical support including the Masterwall System manual:

1.



Product Specification & Installation

2.



Construction Details

All of these booklets are available online at
www.masterwall.com.au
Additional support available through our
nationwide technical advice line:

03 9799 6565



This model wall has been set out with studs at 450mm centres in general.
Note: There is a single 600mm centre section to the corner.

Masterwall Breather Wrap & Flashing Tape

Timber Windows - Reveal Size

Reveal should finish flush with outside of frame.

Example:	xxmm	Plasterboard
	xxmm	Stud Frame
	xmm	Ply Bracing
	xxxmm	Reveal Size

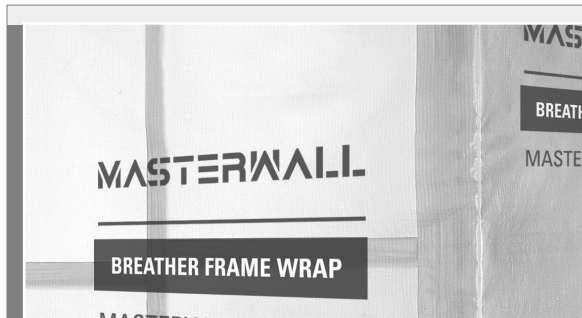
See System Specification & Construction Details Manual.

Aluminium Windows - Reveal Size

Reveal should finish flush with outside of frame.

Example:	10mm	Plasterboard
	90mm	Stud Frame
	6mm	Ply Bracing
	106mm	Reveal Size

See System Specification & Construction Details Manual.



Masterwall Breather Wrap

Breathable paper is fixed straight to frame. Install Masterwall Breather Wrap to entire frame securing with staples or wrap fasteners. All vertical joints in the wrap should overlap a common stud and horizontal joints should lap top over bottom. Cut wrap back from window and door reveals to finish flush with edge of timber frame. Ensure wrap overlaps roofline flashings and box gutters etc and is pressed firmly into internal corners of frame so as not to impede the fitting off the X-Series panels.



Masterwall Flashing Tape

Apply Masterwall Flashing Tape around all openings in the cladding such as doors, windows, rain-heads, penetrations and behind all expansion joints. Flashing tape is an air-seal system that will seal the wrap to all openings, by adhering to the perimeter of the opening and the face of the breather wrap. Whilst removing rear plastic film, press flashing tape firmly onto window or door reveal.



If using timber joinery fold tape 90° to adhere to side of exposed reveal, then apply pressure over the surface of the flashing tape to ensure a strong bond to both window and wrap. Ensure all corners have sufficient overlap.

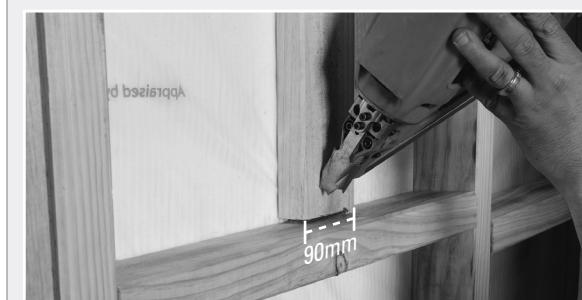
The flashing system is completed with a gasket liquid urethane sealant over the face of the tape as the Masterwall panel is fixed in place (see page 6 for more details).



Fixed Backblocking

Provide suitable timber as used in frame, to back-block all vertical joints, double studs are also suitable. Horizontal technique using timber fixed on its wide side.

Refer to table below to determine when horizontal backblocking should be used.



Vertical technique using timber fixed on its wide side.

Note: all back-blocks and noggings are to be fixed into frame, not floating.

(Tip: Back blocks can be installed after panels are fixed to frame and then fixings completed)

Fixed Backblocking

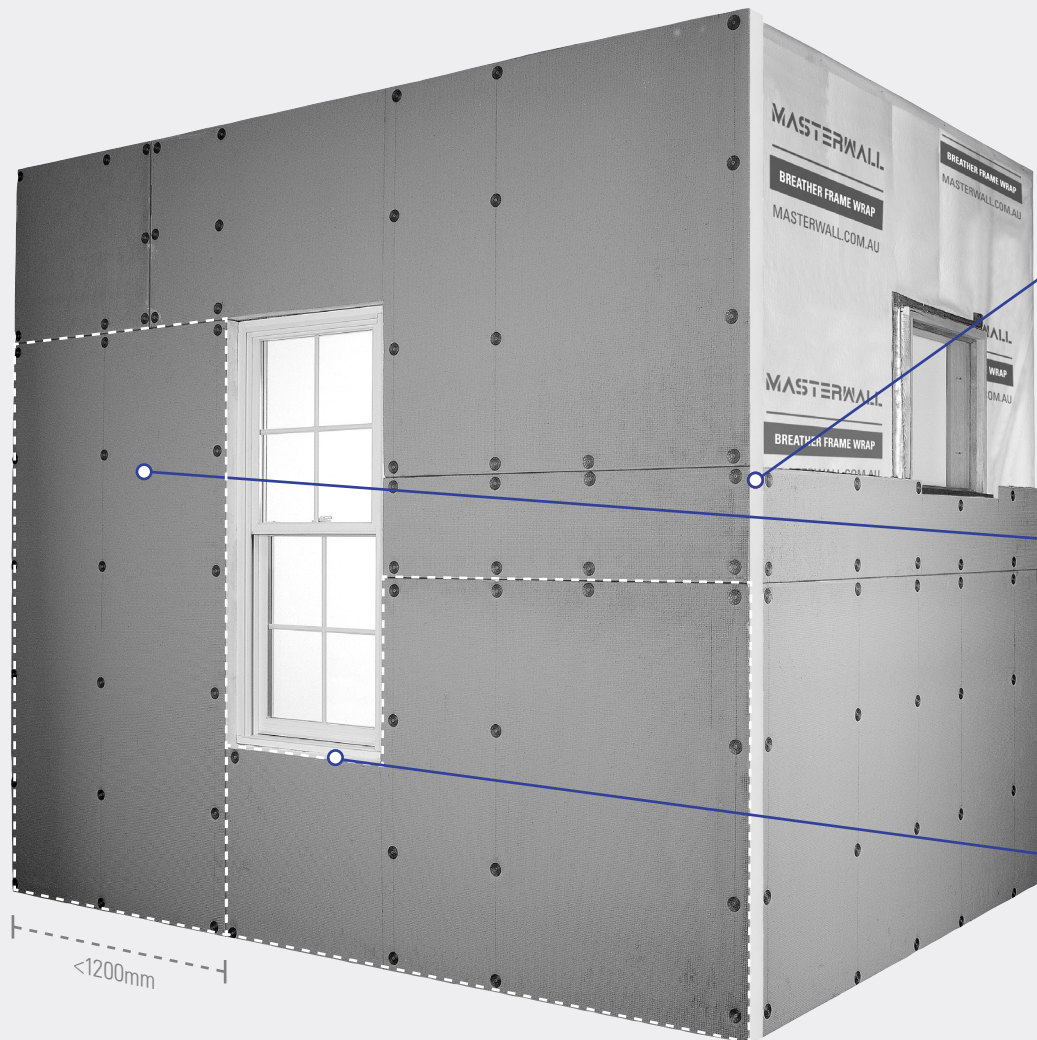
Panel Thickness	50mm		75mm		100mm	
Joint Orientation	V	H	V	H	V	H
Studs 450 centres	✓	✓	✓	✗	✓	✗
Studs 600 centres	✓	✓	✓	✓	✓	✓

(V = Vertical) (H = Horizontal)

(✓ Backblock Required) (✗ Backblock NOT Required)

Edges of the X-Series panels require support on studs, noggings or other intermediate blocking.

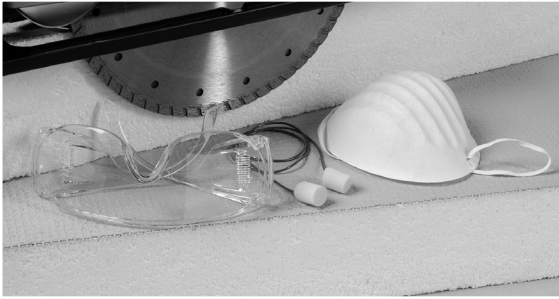
Fixed backblocking techniques are mandatory. Merchant grade is not permitted. Adhesive fixed backblocking is not permitted.



This model wall has been set out with studs at 450mm centres in general.
Note: There is a single 600mm centre section to the corner.

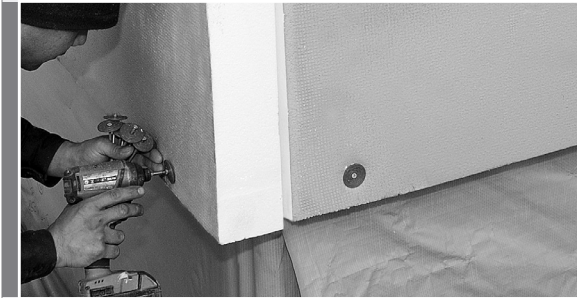
Ground Level

- On subfloor construction, a PVC starter channel should be used to protect underside of panel, this can be fixed using galvanized nails or screws to the frame and glued securely to the underside of the Masterwall panel using a compatible adhesive.
- The exposed slab below Masterwall can also be rendered to achieve a desired uniform appearance.
- Keep panels 50mm minimum above ground level and 15mm minimum above finished surfaces such as terraces and balconies.



Cutting

Cutting panels with a diamond tipped masonry blade power saw is most accurate, however a handsaw will perform the task. Use of power safety devices is recommended as are eye and ear protection, along with dust mask while cutting X-Series panels. Skin protection while using urethane sealants is necessary. Ensure all waste is contained and disposed of according to local regulations.



Layout

X-Series panels should be accurately cut to size to produce close butt joints between panels. Leave a 3mm gap between panels which is later filled with Masterwall approved elastic expansion foam.



Horizontal layout is preferred, but boards may be laid vertically to suit, particularly if distance between e.g. window and external corner is less than 1200mm (width of board).



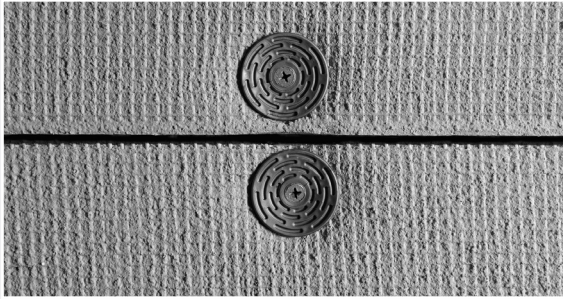
Leave a 3mm gap around the head and jambs of windows and doors. Pitch sills at 7° minimum and leave a sufficient gap under window for render.



Ensure approximately 10mm minimum gap between X-Series panels and all other substrates, i.e. roofline flashings, rebated slab edges, penetrations and deck joists. Roofline panels can be undercut to match pitch of roof to achieve a desired gap.

Cutting and Layout

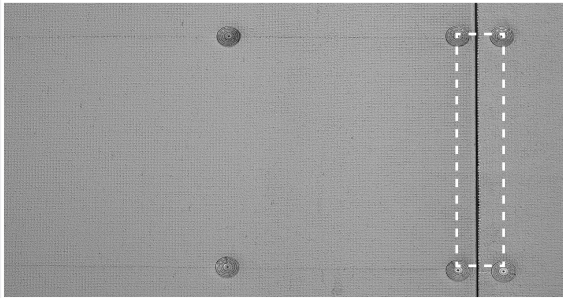
View MSDS for OH&S requirements at:
www.masterwall.com.au



Fixings

Masterwall screw/washer fixings are installed using a No.2 square drive drill bit in an electric drill. The plastic washer should finish slightly countersunk to the face of the panel.

Caution: Over tightening the screw may result in future failure.



Fixings are spaced at 400mm centres on all studs and back-blocks, 50mm from panel edges and around all openings.



Sealing Openings

Aluminium Windows:

Place a 15mm continuous bead of Masterwall Approved Sealant on the face of all flashing tape to act as a gasket sealant behind the panels as they are fixed in place.

NOTE: Masterwall Approved Sealant may come in different colours to that shown here.



On window sill flashing tape, ensure sealant contacts close to the top of the formed panel.

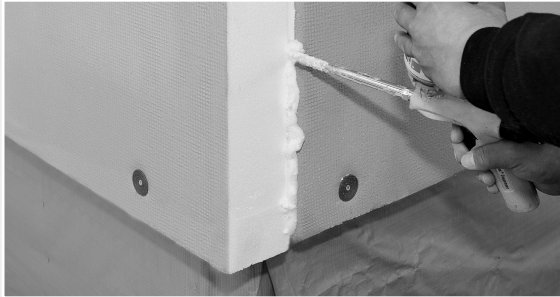


Timber windows:

Sealants to be applied at rear of panel to flashing tape. 15mm bead required.

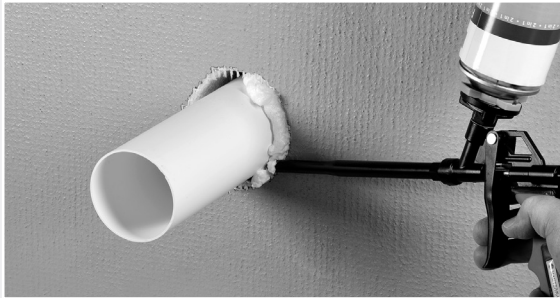
Tip: Dry fit panels first to allow for adjustment before applying sealants.

Fixings, Sealing Joints & Openings



Sealing Butt Joints

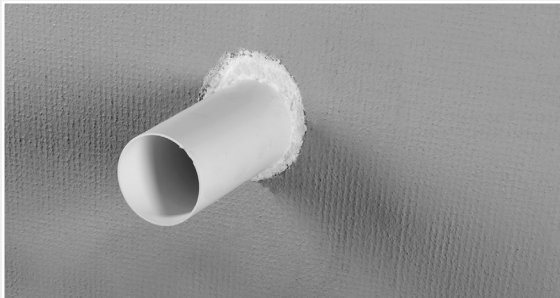
Apply a 40mm bead of elastic expansion foam between all butt joints in the Masterwall system.



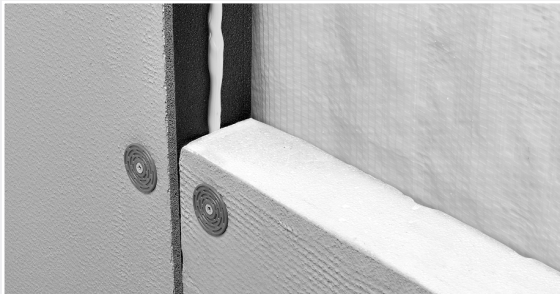
Sealing Around Penetrations

Mask off all penetrations and fill the 10mm gap with elastic expansion foam to ensure a total weather tight seal.

Ensure foam is to full depth of the panel joint.



Excess foam can be trimmed off the face of panel once set.



Control Joints (Panel to Panel)

Prior to closing up of all Control Joints between panels (and between panels and building elements) place a strip of Abelflex Expansion Foam between the two surfaces and run a 15mm bead of Masterwall Liquid Sealant to the centre of the meeting surfaces.



Control Joints (Panel to Other Substrate)

Control Joint to Brickwork:

Ableflex, Panel, Render System, Sealant.

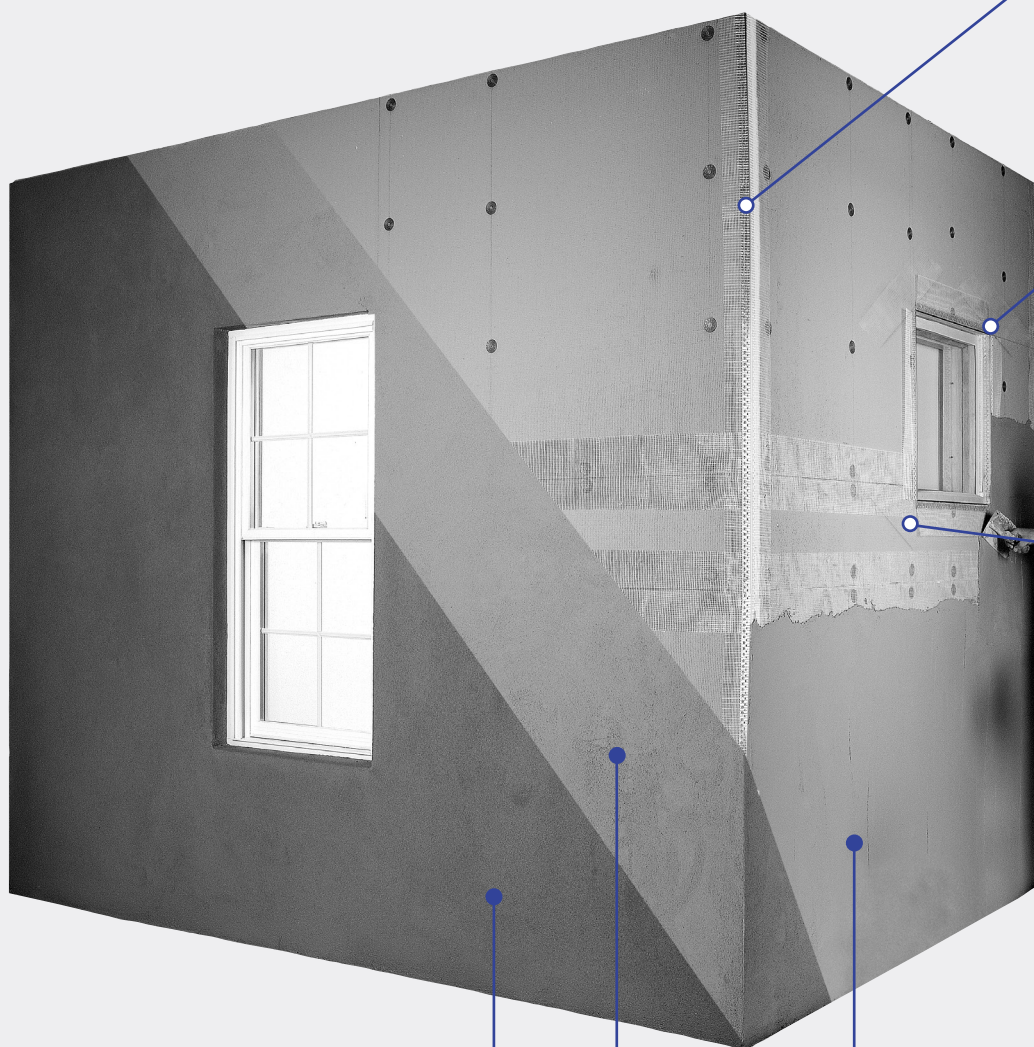
Control Joint within the Panel System:

Refer to Construction Details Manual available on the website.

Control Joints

- Control joints should be placed at perceived stress points in the frame and in walls over 20m in length, 6m in height and wherever engineered into the frame.
- An expansion gap should always be left between Masterwall and other cladding or wall systems such as brickwork or Hebel etc.

NOTE: Refer to the X-Series System Installation & Construction Details Manual for a complete set of Control Joint details.



This model wall has been set out with studs at 450mm centres in general.
Note: There is a single 600mm centre section to the corner.

• Texture • Second coat render • First Coat render

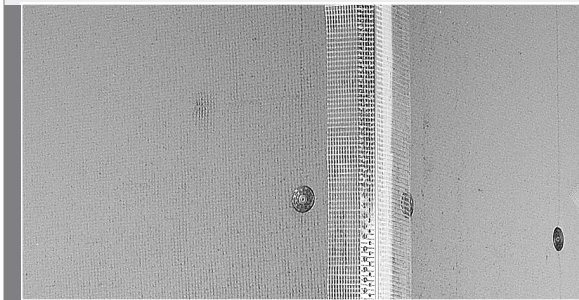
External Angles & Jointing

Finishing

When all X-Series panels have been installed (complete with jointing tape and edge trims) a 5mm - 7mm minimum thickness of an approved acrylic render system is required.

The following sequence will produce the best results:

- First Coat render (including Reinforcing Mesh Jointing Tape)
- Second coat render
- Texture



External Angles

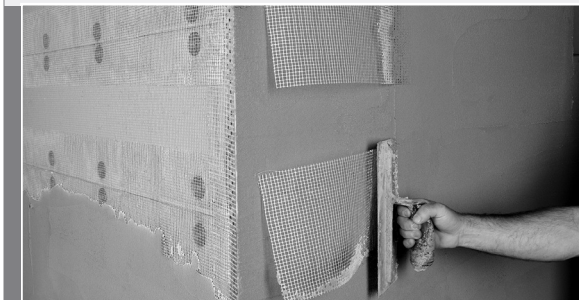
Prior to render application, alloy external render corners may be fixed using daubs of compatible adhesive to secure them to all external corners, reveals, expansion joints and along baselines of the X-Series panels.



Reinforcing Corners

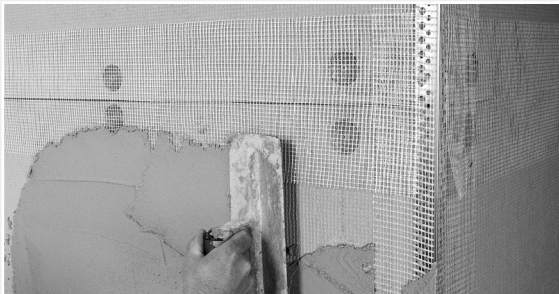
200mm lengths of mesh tape should be placed diagonally on the corners of all openings and around the perimeter of all penetrations.

Reinforcing should never be of the self-adhesive type under any circumstances. For maximum effectiveness the reinforcing is to be suspended within the render, from the front using a trowel.



Jointing

The System requires Masterwall 150mm Mesh Tape to be embedded into the first coat of render over all joints and internal corners.



Only acrylic polymer cement render systems should be applied, to a minimum depth of 5mm.

Note: **Do not** use sand and cement only render.



Rendering

A two coat application is recommended, firstly a 3mm coat over entire wall (not just the panel joints) followed by a 2mm furring coat which is floated ready for the application of an applied finish such as acrylic texture, membrane, paint or other finish.

Note: Only acrylic products are compatible with the Masterwall System.

SYSTEM CHECKLIST:

PRODUCT	DESCRIPTION	SIZES	COVERAGE	✓
Masterwall Panel	Precoated Polystyrene Panel (ready to render)	50mm, 75mm, 100mm & 125mm	1.2m x 2.4m (2.88m²)	
Fixing Sets	Fixing sets / loose 100 p/box	75mm, 100mm, 130mm	Approx. 30 screws per panel	
Masterwall Breather Wrap	Vapour Permeable Sarking	1370mm x 60m or 2740mm x 60m	82m²	
Flashing Tape	Self Adhesive Aluminium Tape (flashing windows & doors etc)	75mm width	20m roll	
Premium Quality Modified Liquid Sealant	Premium Quality Modified Liquid Sealant (gasket sealant for flashing tape)	600ml sausage	2 per roll of flashing tape	
Expandable Elastic Foam	Expandable Urethane Flexible Foam (joint sealant)	700ml can	65m² of Masterwall Panel	
PVC Starter Channel	U Channel for bottom of panel (on ground floor)	50mm, 75mm & 100mm	3m lengths	
Ableflex	Foam strip for rebated slab detail & expansion joints	75mm width	50m roll	

NOTES:

